BOTANICAL STUDY

Roadside along Cuyama Highway (Highway 166)
500 Feet East and 1000 Feet West of
Alamo Creek Road Intersection

Prepared by

V. L. Holland, Ph.D.

Plant and Restoration Ecology
1697 El Cerrito Ct.
San Luis Obispo, CA 93401

Prepared for

Excelaron LLC
Kit Matlick
1075 Court Street, Suite 207
San Luis Obispo, CA 93401.

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SYNOPSIS

Excelaron LLC is proposing the construction of a left turn lane from the Cuyama Highway 166 onto Alamo Creek Road in San Luis Obispo County. This left turn lane and associated road modifications are necessary to provide access to the Huasna Oil Field. The project site is located along the Cuyama Highway 166 roadsides approximately 8.2 miles east of the Cuyama Highway 166 and Highway 101 intersection about 10 miles northeast of Santa Maria. Currently, this section of the highway has two lanes and no left turn lane onto the Alamo Creek Road.

The vegetation immediately along the highway where the project is proposed is highly disturbed and covered mostly by bare ground and a sparse to dense band of ruderal (weedy) vegetation. There is a small, discontinuous corridor of coastal scrub on the slopes immediately adjacent to the roadsides and highway shoulders. Some areas are completely barren, such as the wide pull out at the intersection of Alamo Creek Road. Other areas have scattered to dense weedy herbs with a few widely scattered *Baccharis pilularis* (coyote bush) and other shrubs.

No rare plants or sensitive habitats were found on the near the project site; therefore, not impacts to rare plants, rare plant habitats, or other sensitive habitats will occur as a result of this project.

The 915 ft. long section on the south side of the Cuyama Highway 166 west of Alamo Creek Road includes a transition zone and the left turn lane. The westernmost portion of this section will have a 335 ft long transition from the through lane to the proposed left turn lane. This transition area gradually increases in width from 0 ft. at its western end where it begins to 16 ft. at the starting point of the left turn lane. The proposed roadwork in this area will be mostly along an existing shoulder and within a band of ruderal vegetation. Where it widens to 16 ft., it may require some modifications to the down slope and result in the removal or trimming of coyote bush. Impacts to native vegetation and to the coastal scrub are considered less than significant.

The left turn lane is approximately 580 ft. long and 12 ft. wide. This proposed roadwork will occur in a relatively flat area with ruderal vegetation. Impacts to native vegetation is considered less than significant.

The 1000 ft. long section on the north side of the highway west of Alamo Creek Road requires a new 4 ft. wide shoulder. The proposed shoulder work will occur almost entirely with the band of ruderal vegetation. Impacts to native vegetation is considered less than significant.

A 500 ft. long section on the south side of the highway past (east of) Alamo Creek Road provides a transition beyond (east of) the left turn lane. This transition varies in width from 16 ft. at the end of the left turn lane to 0 ft. where it transitions back to the existing highway. The proposed roadwork will occur with a broad band of ruderal vegetation. Impacts to native vegetation is considered less than significant.

INTRODUCTION AND PURPOSE

Excelaron LLC is proposing the construction of a left turn lane from the Cuyama Highway 166 onto Alamo Creek Road in San Luis Obispo County. This left turn lane and associated road modifications are necessary to provide access to the Huasna Oil Field (APN: 085-271-004 and Case: PRE2006-00103 (William Divine). The oil field is located at Lot 4, E/2SW/4, SW/4SE/4, Sec. 30, T12N, R33 W, San Luis Obispo County, CA.

The project is proposed for an approximate1500 foot long section along the Cuyama Highway 166 approximately 8.2 miles east of Highway 101 (Figure 1). The project design is illustrated in Figure 2 (provided by Excelaron LLC) and includes the following elements.

(1) A 915 ft. long section on the south side of the Cuyama Highway 166 west of Alamo Creek Road includes a transition zone and the left turn lane (Photo 1). The westernmost portion of this section will have a 335 ft long transition from the through lane to the proposed left turn lane. This transition area gradually increases in width from 0 ft. at its western end where it begins to 16 ft. at the starting point of the left turn lane. The left turn lane is approximately 580 ft. long and 12 ft. wide.

(2) A 1000 ft. long section on the north side of the highway west of Alamo Creek Road requires a new 4 ft. wide shoulder (Photo 2)

(3) A 500 ft. long section on the south side of the highway past (east of) Alamo Creek Road provides a transition beyond (east of) the left turn lane. This transition varies in width from 16 ft. at the end of the left turn lane to 0 ft. where it transitions back to the existing highway (Photo 3).

No road work or disturbances are planned for the north side of the highway east of Alamo Creek Road.

On January 14, 2009 from approximately 8:30 a.m. to 1:00 p.m., I examined the vegetation and flora on the project site and searched for any evidence of rare or endangered species known to occur in the general vicinity of the road construction, including the Huasna Peak quadrangle where the project is located and the eight surrounding quadrangles. I also examined the site for the presence of sensitive habitats.

LOCATION AND PHYSICAL FEATURES

The project site is located along the Cuyama Highway 166 roadsides approximately 8.2 miles east of the Cuyama Highway 166 and Highway 101 intersection about 10 miles northeast of Santa Maria. Currently, this section of the highway has two lanes and no left turn lane onto the Alamo Creek Road. The highway traverses a small, relatively flat valley and has an elevation range of approximately 676 to 700 feet. The area surrounding the valley has rolling to somewhat steep hillsides typical of this section of the Transverse and South Coast Ranges.

The vegetation immediately along the highway where the project is proposed is highly disturbed and covered mostly by bare ground and a sparse to dense band of ruderal (weedy) vegetation. There is a small, discontinuous corridor of coastal scrub on the slopes immediately adjacent to the roadsides and highway shoulders. Some areas are completely barren, such as the wide pull out at the intersection of Alamo Creek Road. Other areas have scattered to dense weedy herbs with a few widely scattered *Baccharis pilularis* (coyote bush) and other shrubs. The neighboring valley and hillsides are covered by a mosaic of foothill (oak) woodland, coastal scrub, and coastal valley grassland. The areas around the highway are used for rangeland. No homes or other structures occur near the road.

Figure 1. Aerial showing the general location of the Cuyama Highway 166 left turn lane and road improvement project east and west of its intersection with Alamo Creek Road.

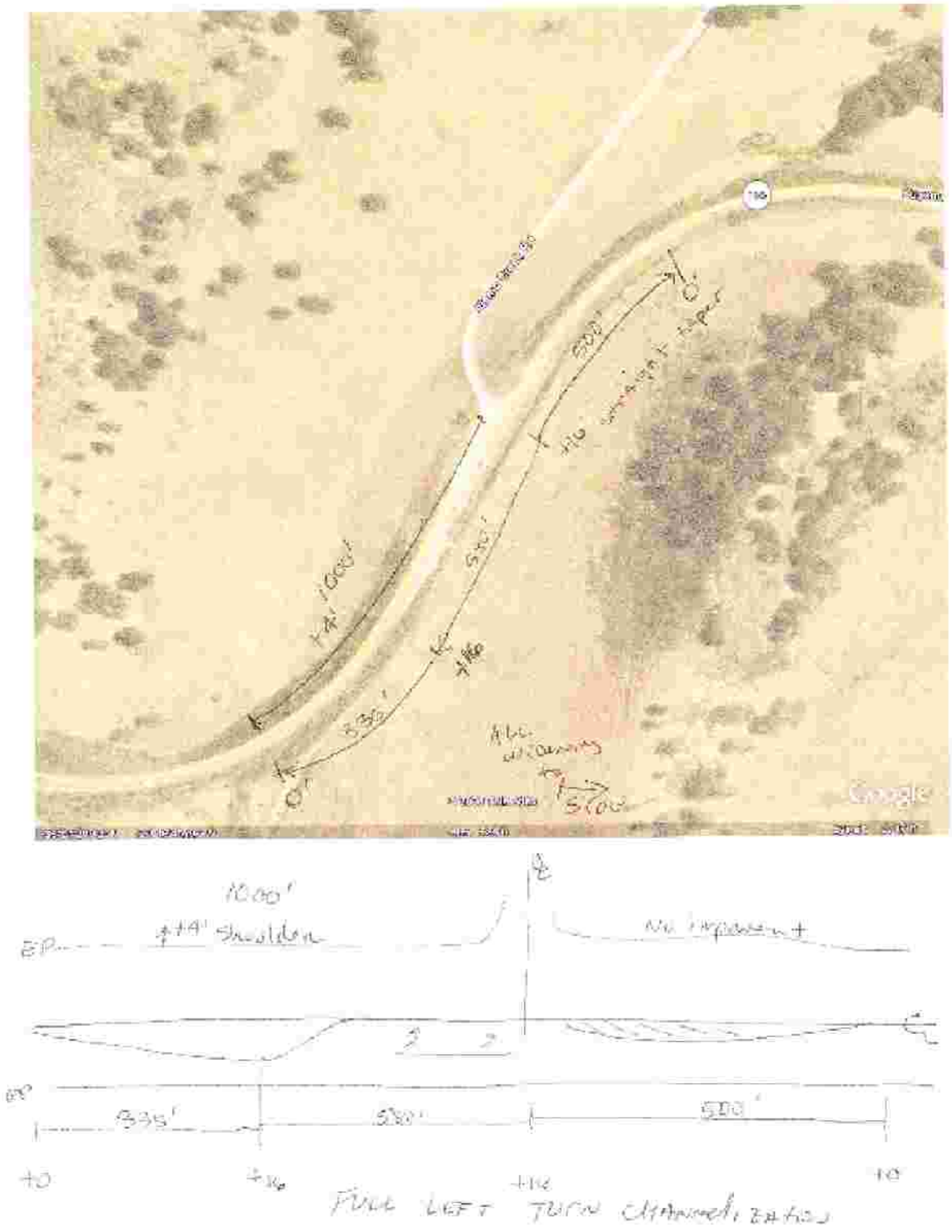

Figure 2. Project design for the left turn lane onto Alamo Creek Road from Cuyama Highway 166. Drawing provided by Excelaron LLC.

METHODS

I conducted a field survey of the entire project site on January 14, 2009 from approximately 8:30 a.m. to 1:00 p.m. Consistent with biological survey methodology, I sampled the entire roadside areas included in the proposed project (Figure 2) as well as the immediately surrounding areas along the Cuyama Highway 166 corridor. The purpose of this analysis was to list all plant species found in identifiable condition, describe the plant communities, and determine if any sensitive plant species or habitats were present within or near the project site.

In my field evaluation of the site, I used overlapping transects that zigzagged along the roadside the entire length of the project site and at least 200 ft. beyond the western and eastern limits of the project as shown on Figure 2. The sampling transects extended from the edge of the highway pavement out at least 30 feet along both the north and south sides of the highway. I also evaluated the north side of the highway east of Alamo Creek Road even though no disturbance is planned for this portion of the highway.

During my survey, I examined and described variations in the vegetation and flora shaped by landform, soil, hydrology, and past disturbances. I recorded species presence and relative abundance with the goal of recording all plant species present on the site including any rare plants. To accomplish this, I surveyed the site and recorded all the plant species present in identifiable condition. While only repeated surveys conducted during all seasons, and even over a few years, provide an inventory nearing one hundred percent completeness, I am confident that the results of my studies present an accurate inventory of any potential rare plants known to occur in the general vicinity of the project site (Table 2).

During my January 2009 site visit, most herbaceous plants were relatively early in their development, but some were in reproductive condition. My inventory is not a complete list of all species present because some were not in identifiable condition. However, many species could be identified using vegetative features of this year's plant assemblage along with the dried remains of last year's standing crop. January does not fall within the flowering period of most rare plants reported from the Huasna Peak and surrounding quadrangles (Table 1); however, the rare plant species listed on Table 2 can be identified to the genus level (*Arctostaphylos*, *Astragalus*, *Calochortus*, *Delphinium*, *Erigeron*, *Fritillaria*, *Horkelia*, and *Lupinus*) using their distinctive vegetative features. During my on site survey, none of these genera of plant species were found on or near the project site.

References used to make and verify plant identifications include relevant floras (Hickman 1993 and Hoover 1970) and herbarium specimens housed at the Hoover Herbarium, Cal Poly State University. Nomenclature follows that of the Jepson Manual (Hickman, 1993).

VEGETATION AND FLORA

Flora

I found a total of 57 plant species on the site including 7 shrubs (all native) and 50 grasses and forbs (14 native; 36 introduced). Of the 57 species on the site; 21 are native and 36 are introduced. It should be pointed out that the all of the shrubs are native, but most of the forbs and grasses are introduced (64%). Table 1 provides a list of all plant species found in identifiable condition within the surveyed area

Life form	Total	Native	Introduced
Shrubs			
Herbs (Grasses and Forbs)			

The distribution of native and introduced species by life form is typical for many coastal areas San Luis Obispo County in that trees and shrubs are mostly native and herbs (grasses and forbs) are mostly alien. This pattern of many alien herbs reflects the long-term susceptibility of disturbed sites to invasion by primarily European or Eurasian annual plants more tolerant or adapted to repeated disturbance.

Table 1. Plant Species Found on and around the Highway 166 and Alamo Creek Road Left Turn and Road Improvement Project Site.

Scientific name	Common name	Origin
SHRUBS		
Artemisia californica	California sagebrush	California Native
Baccharis pilularis	Coyote bush	California Native
Hazardia squarrosa	Saw-toothed goldenbush	California Native
Lotus scoparius	Deerweed	California Native
Rhamnus californica	California coffeeberry	California Native
Sambucus mexicana	Elderberry	California Native
Salvia apiana	White sage	California Native
Toxicodendron diversilobum	Poison-oak	California Native
HERBS		
Amaranthus sp.	Amaranth	Introduced
Ambrosia psilostachya	Western ragweed	California native
Amsinckia sp.	Fiddleneck	California native
Artemisia douglasiana	Mugwort	California native
continued		

Scientific name	Common name	Origin
Avena barbata	Slender wild oats	Introduced
Avena fatua	Common wild oats	Introduced
Brassica nigra	Black mustard	Introduced
Bromus diandrus	Ripgut brome	Introduced
Bromus hordeaceus	Soft chess brome grass	Introduced
Bromus madritensis ssp. rubens	Red brome	Introduced
Bromus sp.	Perennial brome	California native?
Carduus pycnocephalus	Italian thistle	Introduced
Centaurea solstitialis	Yellow star-thistle	Introduced
Chenopodium sp.	Goosefoot	Introduced
Cirsium vulgare	Bull thistle	Introduced
Clarkia sp.	Farewell to spring	California native
Conium maculatum	Poison hemlock	Introduced
Conyza canadensis	Horseweed	Introduced
Cryptantha sp.	Cryptantha	California native
Epilobium brachycarpum	Annual willow-herb	California native
Eremocarpus setigerus	Turkey mullein	California native
Eriogonum sp.	Buckwheat	California native
Erodium botrys	Storkbill filaree	Introduced
Erodium cicutarium	Redstem filaree	Introduced
Filago gallica	Herba impia	Introduced
Foeniculum vulgare	Fennel	Introduced
Geranium dissectum	Annual geranium	Introduced
Heterotheca grandiflora	Telegraph weed	Introduced
Hirschfeldia incana	Perennial mustard	Introduced
Hordeum murinum	Foxtail barley	Introduced
Lessingia filaginifolia var. filaginifolia	California-aster	California native
Lolium multiflorum	Ryegrass	Introduced
Lotus sp.	Deervetch	California native?
Malva nicaeensis	Mallow	Introduced
Malva parviflora	Mallow	Introduced
Medicago polymorpha	Bur-clover	Introduced
Melilotus indicus	Yellow sweet clover	Introduced
Oxalis albicans ssp. pilosa	Sorrel	California native
Oxalis pescaprae	Bermuda-buttercup	Introduced
Piptatherum miliaceum	Smilo	Introduced
Plagiobothrys sp.	Popcorn flower	California native
Plantago lanceolata	English plantain	Introduced
Rumex acetosella	Sour dock	Introduced
Rumex crispus	Curly dock	Introduced
Silybum marianum	Milk-thistle	Introduced
Sonchus oleraceus	Common sow-thistle	Introduced
Trifolium sp.	Annual clover	California native?
Vicia sp.	Vetch	Introduced
Vulpia myuros	Rattail fescue	Introduced

Vegetation and Plant Communities

Vegetation is shaped by the interactions among long-term climate, short-term weather events, local landforms, soils, hydrology, the physical tolerances of individual plant species, and land use history by animals, including humans. Plant associations are spatially and temporally dynamic. Definitions and boundaries are relative to the sharpness of the controlling environmental factors. Thus, plant communities are not always discrete but often transition into one another. In the case of the project site, the primary factor determining the flora and vegetation cover is the long-term and short-term disturbances and the regular human disturbances such as road maintenance along the Cuyama Highway 166 roadsides.

The present-day vegetation on immediately next to the project site along and the Cuyama Highway 166 is composed of two plant communities: **(1) anthropogenic (ruderal) communities and (2) coastal scrub communities.**

1. Anthropogenic (Ruderal) Communities

Anthropogenic plant associations colonize and become established in areas modified by a single or a repeated series of disturbances to existing native vegetation by human activities followed by the intentional or unintentional introduction of plants. Such assemblages are classified under four broad categories: ***arval*** associations, which are found on cultivated lands such as row crops; ***pastoral*** associations, which occur in areas used for consumption by grazing livestock; ***ruderal*** associations, which are found in areas of repeated disturbance along roadsides and on fallow lands; and ***castral*** or ***urban*** associations, which occur in places where horticultural plants are grown. These communities are dominated by mostly introduced plant species often referred to as “ruderals” or “weeds”. However, there are also some native plants that can grow in areas of disturbance and mix with the typical aliens that dominate roadside areas.

The project site is dominated by a diversity of weedy, introduced grasses and forbs but there are a few native plant species mixed with these weedy species. Overall, native plants are not common and only a few were found; however, some native species like *Heterotheca grandiflora* (Telegraph weed), *Eremocarpus setigerus* (Turkey mullein), and *Baccharis pilularis* (Coyote bush) are adapted to disturbed conditions and are locally common is places along the roadsides. All three of these native species were found along the highway within the project site.

Cuyama Highway 166 roadside has small to somewhat large areas that are subject to regular disturbances by traffic and road maintenance. Large portions of the roadside are barren such as the large pull out at Alamo Creek Road intersection. However, other areas have a sparse to dense band of ruderal vegetation immediately along the roadside. The proposed project disturbances will occur mostly within the barren areas and the ruderal plant community (Figure 3; Photos 1, 2, and 3). The dominant plants vary somewhat from place to place. *Piptatherum miliaceum* (smilo) form dense stands along some portions of the roadside as does *Erodium cicutarium* (Redstem filaree). Other areas have a more even mixture of

various grass and forb species. The most common plants in the ruderal community on site are listed below. Others that form part of this ruderal assemblage are listed on Table 1.

Ambrosia psilostachya	Western ragweed	California native
Avena barbata	Slender wild oats	Introduced
Avena fatua	Common wild oats	Introduced
Bromus diandrus	Ripgut brome	Introduced
Bromus hordeaceus	Soft chess brome grass	Introduced
Bromus madritensis ssp. rubens	Red brome	Introduced
Centaurea solstitialis	Yellow star-thistle	Introduced
Conyza canadensis	Horseweed	Introduced
Epilobium brachycarpum	Annual willow-herb	California native
Eremocarpus setigerus	Turkey mullein	California native
Erodium botrys	Storkbill filaree	Introduced
Erodium cicutarium	Redstem filaree	Introduced
Heterotheca grandiflora	Telegraph weed	Introduced
Hirschfeldia incana	Perennial mustard	Introduced
Lolium multiflorum	Ryegrass	Introduced
Malva spp.	Mallow	Introduced
Medicago polymorpha	Bur-clover	Introduced
Melilotus indicus	Yellow sweet clover	Introduced
Piptatherum miliaceum	Smilo	Introduced
Plantago lanceolata	English plantain	Introduced

2. Coastal Scrub Communities

Coastal scrub communities are dominated by small to medium sized (3-9 feet tall) shrubs 3 to 8 feet tall. In general, both the density and the composition of the shrub cover vary from site to site as does the herbaceous understory. The dominant shrubs in this plant community are mostly comparatively soft-stemmed plants that are often resinous and scented. They generally have thin leaves and shallow roots and undergo significant dieback during the summer drought. For this reason, coastal scrub is sometimes referred to as "soft chaparral" as opposed to the "hard chaparral" or "true chaparral". These communities are also sometimes called "coastal sage scrub" because of the presence of various species of *Salvia* (sages) and *Artemisia californica* (California sagebrush).

Most of the coastal scrub within the project site along the Cuyama Highway 166 is dominated by *Baccharis pilularis* (Coyote bush). Other shrubs, such as *Rhamnus californica* (Coffeeberry), *Artemisia californica* (California sagebrush), and *Sambucus mexicana* (Elderberry), form small, scattered patches along the highway slopes and also mix with the Coyote bush along the highway.

The roadsides within the project site have a relatively flat shoulder that varies from approximately 6 to more than 30 feet in width. These are the areas covered mostly by ruderal vegetation. However, because much of the highway is elevated, there are short, steep down slopes adjacent to the flat shoulders that support a scattered

to continuous band of coastal scrub vegetation. The 500 ft. section of road along the south side of the highway east of the Alamo Creek Road has a large flat area (30 ft. wide) covered by ruderal vegetation. The small band of coastal scrub adjacent to a broad band of ruderal vegetation is on the upslope (Figure 3; Photos 1, 2, and 3). The shrubs found in the coastal scrub on and near the project site are listed below.

Scientific name	Common name	Origin
SHRUBS		
Artemisia californica	California sagebrush	California Native
Baccharis pilularis	Coyote bush	California Native
Hazardia squarrosa	Saw-toothed goldenbush	California Native
Lotus scoparius	Deerweed	California Native
Rhamnus californica	California coffeeberry	California Native
Sambucus mexicana	Elderberry	California Native
Salvia apiana	White sage	California Native
Toxicodendron diversilobum	Poison-oak	California Native

The coastal scrub understory is variable and mostly sparse. Where the shrubs are dense and form an unbroken canopy, the understory is sparse and sometimes absent. However, in open areas where the shrubs are scattered dense stands of the ruderal plants listed previous mix with the shrubs.

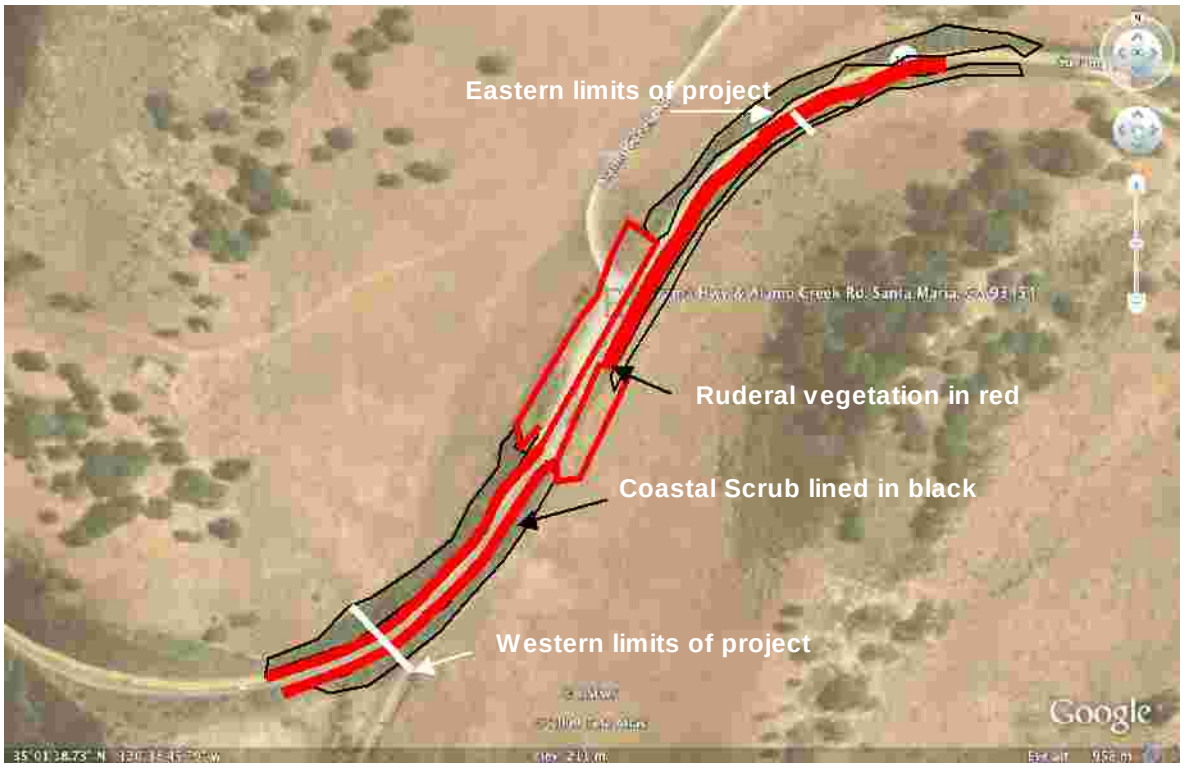

Figure 3. Aerial showing the bands of ruderal vegetation and coastal scrub along the Cuyama Highway 166 project site.

RARE AND ENDANGERED PLANTS

To determine the rare plant species that could potentially be present on the project site, I conducted a search for rare plants known to occur within the Huasna Peak 7.5 minute quadrangle and the eight surrounding quadrangles (Table 2). To generate this list, I referred to the most recent 2009 edition of the California Department of Fish and Game Natural Diversity Data Base: Special Vascular Plants, Bryophytes, and Lichen List *(CNDDB)* and the most recent edition of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* database, both of which are accessible through the internet www.cnps.org) and (http://www.dfg.ca.gov/whdab/html/cnddb.html.

This search revealed several special status plant species that occur within the quadrangles surrounding the study site. but only one species ***Astragalus didymocarpus var. milesianus*** (Miles milk-vetch) was reported from the Huasna Peak quadrangle (Tables 2). Most of the rare plants on the list would not be expected on the study site because their preferred habitat or known range does not occur on the study site. Table 4 provides an evaluation of preferred habitats of these rare plants and an evaluation of whether potential habitats occur on the project site. Table 3 provides additional information about these rare plants including flowering period, life form, and elevation range.

As discussed previously, I conducted a botanical study and rare plant search of the project site on January 14, 2009. While January does not fall within the flowering period of most rare plants reported from the Huasna Peak and surrounding quadrangles (Table 1), the rare plants reported from these quadrangles (Table 2) can be identified to the genus level (*Arctostaphylos*, *Astragalus*, *Calochortus*, *Delphinium*, *Erigeron*, *Fritillaria*, *Horkelia*, and *Lupinus*) using their distinctive vegetative features. None of these genera were found within the project site or around the site during my survey.

To search for rare plants, I used a stratified sampling method described in the methods section of this report. I surveyed the site until no new species were found, and until I was sure that all rare plants, if present, were noted. No rare plant species were found on the site and I do not think suitable habitats occur on the site to support the rare plant species known to occur in the vicinity of the site.

Table 2. List of Special Status Plants Found in the Huasna Peak 7.5 Quadrangle and the Eight Surrounding Quadrangles. Current Rarity Status is also included

Scientific Name	*Common Name*	*CNPS List*	*State Rank*	*Global Rank*	*California Listing*	*Federal Listing*
Arctostaphylos pilosula	*Santa Margarita manzanita*	*List 1B.2*	*S2.2*	*G2*	*None*	*None*
Arctostaphylos rudis	*sand mesa manzanita*	*List 1B.2*	*S2.2*	*G2*	*None*	*None*
Arctostaphylos wellsii	*Wells' manzanita*	*List 1B.1*	*S2.1?*	*G2*	*None*	*None*
Astragalus didymocarpus var. milesianus	*Miles' milk-vetch*	*List 1B.2*	*S2.2*	*G5T2*	*None*	*None*
Calochortus palmeri var. palmeri	*Palmer's mariposa lily*	*List 1B.2*	*S2.1*	*G2T2*	*None*	*None*
Delphinium parryi ssp. blochmaniae	*dune larkspur*	*List 1B.2*	*S2.2*	*G4T2*	*None*	*None*
Delphinium umbraculorum	*umbrella larkspur*	*List 1B.3*	*S2S3.3*	*G2G3*	*None*	*None*
Erigeron blochmaniae	*Blochman's leafy daisy*	*List 1B.2*	*S2.2*	*G2*	*None*	*None*
Fritillaria ojaiensis	*Ojai fritillary*	*List 1B.2*	*S1.2*	*G1*	*None*	*None*
Horkelia cuneata ssp. sericea	*Kellogg's horkelia*	*List 1B.1*	*S1.1*	*G4T1*	*None*	*None*
Lupinus ludovicianus	*San Luis Obispo County lupine*	*List 1B.2*	*S2.2*	*G2*	*None*	*None*

Key to numbers and symbols used in Table 1 are listed below and on the next pages

California Native Plant Society

List 1—Plants of Highest Priority (2 sublists):
1A—Plants Presumed Extinct in California
1B—Plants Rare and Endangered in California and Elsewhere
List 2—Plants Rare or Endangered in California, but More Common Elsewhere
List 3—Plants about which More Information is needed
List 4—Plants of Limited Distribution (A Watch List)

R (Rarity)
1. Rare but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time
2. Distributed in a limited number of occurrences, occasionally more if each occurrence is small
3. Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported

E (Endangerment)
1. Not endangered
2. Endangered in a portion of its range
3. Endangered throughout its range

D (Distribution)
1. More or less widespread outside California
2. Rare outside California
3. Endemic to California

California Dept of Fish & Game

Endangered Species (CE)
Plant taxa whose prospects for survival are in immediate jeopardy from one or more causes

Threatened Species (CT)
Plant taxa not presently threatened with extinction, but likely to become endangered within the foreseeable future in the absence of special protection and management efforts

Rare Species (CR)
Plant taxa not presently threatened with extinction, but occurring in such small numbers throughout its range that they may become endangered if habitat conditions worsen

STATE RANKIING

S1 = Less than 6 EOs or less than 1,000 individuals or less than 2,000 acres
S2 = 6-20 EOs or 1,000–3,000 individuals or 2,000–10,000 acres
S3 = 21-100 EOs or 3,000-10,000 individuals or 10,000-50,000 acres
S4 = Apparently secure in California – No threat rank
S5 = Demonstrably secure in California – No threat rank

Number following S ranks:

1 – Very threatened
2 – Threatened
3 – No current threats

U. S. Dept of Fish and Wildlife

Endangered Species (FE)
Taxa in danger of extinction throughout all or a significant portion of their range

Threatened Species (FT)
Taxa likely to become endangered within the foreseeable future throughout all or a significant portion of their range

Candidate Species (C)
Taxa for which the Service has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species, but such action has been delayed by other listing activity

Global Ranking

GX Presumed **Extinct**
Believed to be extinct throughout its range. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

G3 Vulnerable
Vulnerable globally either because very rare and local throughout its range, found only in a restricted range (even if abundant at some locations), or because of other factors making it vulnerable to extinction or elimination. Typically 21 to 100 occurrences or between 3,000 and 10,000 individuals.

GH Possibly Extinct
Known from only historical occurrences, but may nevertheless still is extant; further searching needed.

G4 Apparently **Secure**
Uncommon but not rare (although it may be rare in parts of its range, particularly on the periphery), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern. Typically more than 100 occurrences and more than 10,000 individuals.

G1 Critically Imperiled
Critically imperiled globally because of extreme rarity or because of some factor(s) making it especially vulnerable to extinction. Typically 5 or fewer occurrences or very few remaining individuals (<1,000) or acres (<2,000) or linear miles (<10).

G5 Secure
Common, widespread, and abundant (although it may be rare in parts of its range, particularly on the periphery). Not vulnerable in most of its range. Typically with considerably more than 100 occurrences and more than 10,000 individuals.

G2 Imperiled
Imperiled globally because of rarity or because of some factor(s) making it very vulnerable to extinction or elimination. Typically 6 to 20 occurrences or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000) or linear miles (10 to 50).

T# Infraspecific Taxon (trinomial)
The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1.

Table 3. List of Special Status Plants Found in the Huasna Peak 7.5 Quadrangle and the Eight Surrounding Quadrangles along with life form, flowering period, and elevation range.

Scientific Name	Common Name	Life Form	Flowering Period	Elevation Range
Arctostaphylos pilosula	Santa Margarita manzanit	perennial evergreen shrub	Dec-Mar	170-1100
Arctostaphylos rudis	sand mesa manzanita	perennial evergreen shrub	Nov-Feb	25-322
Arctostaphylos wellsii	Wells' manzanita	perennial evergreen shrub	Dec-May	30-400
Astragalus didymocarpus var. milesianus	Miles' milk-vetch	annual herb	Mar-Jun	20-90
Calochortus palmeri var. palmeri	Palmer's mariposa lily	perennial bulbiferous herb	Apr-Jul	1000-2390
Delphinium parryi ssp. blochmaniae	dune larkspur	perennial herb	Apr-May	0-200
Delphinium umbraculorun	umbrella larkspur	perennial herb	Apr-Jun	400-1600
Erigeron blochmaniae	Blochman's leafy daisy	perennial rhizomatous herb	Jun-Aug	3-45
Fritillaria ojaiensis	Ojai fritillary	perennial bulbiferous herb	Feb-May	300-998
Horkelia cuneata ssp. sericea	Kellogg's horkelia	perennial herb	Apr-Sep	10-200
Lupinus ludovicianus	San Luis Obispo County lupine	perennial herb	Apr-Jul	50-525

Table 4. Habitat Requirements of the Special Status Plants Found in the Huasna Peak 7.5 Quadrangle and the eight Surrounding Quadrangles along with Preferred Habitats and whether Potential Habitats Occur on the Study Site.

Scientific Name	Preferred Habitats	Potential Habitat Present on Site
Arctostaphylos pilosula	Closed-cone coniferous forest, Chaparral, Cismontane woodland	No
Arctostaphylos rudis	Chaparral(maritime), Coastal scrub/sandy	No
Arctostaphylos wellsii	Broad-leafed upland forest, Closed-cone coniferous forest, Chaparral/sandstone	No
Astragalus didymocarpus var. milesianus	Coastal scrub(clay)	Potentially but no Astragalus found on site
Calochortus palmeri var. palmeri	Chaparral, Lower montane coniferous forest, Meadows and seeps/mesic	No
Delphinium parryi ssp. blochmaniae	Chaparral(maritime), Coastal dunes	No – out of species range
Delphinium umbraculorum	Cismontane woodland	No
Erigeron blochmaniae	Coastal dunes, Coastal scrub	No
Fritillaria ojaiensis	Broad-leafed upland forest(mesic), Chaparral, Lower montane coniferous forest/rocky	No – out of species range
Horkelia cuneata ssp. sericea	Closed-cone coniferous forest, Chaparral(maritime), Coastal dunes, Coastal scrub/sandy or gravelly, openings	Potentially but Horkelia found on site
Lupinus ludovicianus	Chaparral, Cismontane woodland/sandstone or sandy	No – out of species range

IMPACTS AND MITIGATION

No rare plants or sensitive habitats were found on the near the project site; therefore, not impacts to rare plants, rare plant habitats, or other sensitive habitats will occur as a result of this project.

The 915 ft. long section on the south side of the Cuyama Highway 166 west of Alamo Creek Road includes a transition zone and the left turn lane. The westernmost portion of this section will have a 335 ft long transition from the through lane to the proposed left turn lane. This transition area gradually increases in width from 0 ft. at its western end where it begins to 16 ft. at the starting point of the left turn lane. The proposed roadwork in this area will be mostly along an existing shoulder and within a band of ruderal vegetation. Where it widens to 16 ft., it may require some modifications to the down slope and result in the removal or trimming of coyote bush. Impacts to native vegetation and to the coastal scrub are considered less than significant.

The left turn lane is approximately 580 ft. long and 12 ft. wide. This proposed roadwork will occur in a relatively flat area with ruderal vegetation. Impacts to native vegetation is considered less than significant.

The 1000 ft. long section on the north side of the highway west of Alamo Creek Road requires a new 4 ft. wide shoulder. The proposed shoulder work will occur almost entirely with the band of ruderal vegetation. Impacts to native vegetation is considered less than significant.

A 500 ft. long section on the south side of the highway past (east of) Alamo Creek Road provides a transition beyond (east of) the left turn lane. This transition varies in width from 16 ft. at the end of the left turn lane to 0 ft. where it transitions back to the existing highway. The proposed roadwork will occur with a broad band of ruderal vegetation. Impacts to native vegetation is considered less than significant.

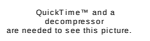

Photo 1. View of broad band of ruderal vegetation along the south side of the Cuyama Highway 166 where the left turn lane and transition zone will be installed. Part of the large pull out in Photo 2 is visible on the right of photo. Coastal scrub occurs next to the band of ruderal vegetation.

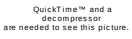

Photo 2. View of large pull out and roadside along the north side of Cuyama Highway 166 from its intersection with Alamo Creek Road. The band of coastal scrub along highway and up on the slopes is visible in the upper right of photo.

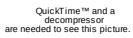

Photo 3. View of large band or ruderal vegetation along the south side of Highway 166 where the left turn lane will be constructed. A transition area will extend down this broad band of ruderal vegetation for 500 ft. past the Alamo Creek Road intersection (left side of photo)

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